

values are in the lower thirties. When temperatures of slightly above freezing occurred in the regular cooperative station, temperatures 6° or 8° lower have occurred in the special station shelter in the alfalfa foliage.

A thermograph has been exposed in this special alfalfa station, as shown in the accompanying photograph, from the records of which the duration of the cold has been determined. This does not vary greatly from the hourly march of temperature and the duration of both the high and the low temperatures as shown on thermograph records at Salt Lake City, so far as the records have been obtained for study. The principal feature of this, however, is that the cold occurs just prior to sunrise, and

that the damaging values are usually of rather short duration. Hence smudging as a frost prevention need not begin until toward morning, nor need it continue long, the time being dependent entirely on the temperatures recorded in the region at the time. In general, on a clear night, when a minimum temperature of 25° (F.) is reached, the thermograph shows that the temperature was below 30° (F.) not to exceed two hours. This value, however, varies somewhat on different nights, depending principally on the amount of clouds and wind. Temperatures of 32° (F.) in the foliage have resulted in some damage; temperatures of 30° (F.) usually cause considerable damage.

BIBLIOGRAPHY.

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C. FITZHUGH TALMAN, Professor in Charge of Library.

The following have been selected from among the titles of books recently received as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies:

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Wegener, Alfred.

Das detonierende Meteor vom 3. April, 1916. 3¼ Uhr nachmittags, in Kurhessen. Marburg a. L. 1917. 4 p. l., 83 p. illus. tables. 24½ cm. Added t. p.: Schriften der Gesellschaft zur Beförderung der gesamten Naturwissenschaften zu Marburg. Band 14. Heft 1. Literatur. p. 81-83. [Includes some incidental discussion of meteorological features.]

RECENT PAPERS BEARING ON METEOROLOGY AND SEISMOLOGY.

C. FITZHUGH TALMAN, Professor in charge of library.

The following titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. The titles selected are of papers and other communications bearing on meteorology and cognate branches of science. This is not a complete meteorological index of all the journals form which it has been compiled. It shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau.

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